

## FED CATHODE STRUCTURE USING ELECTROPHORETIC DEPOSITION AND METHOD OF FABRICATION

### Abstract of the Disclosure

A method of fabricating a field emission device cathode using electrophoretic deposition of carbon nanotubes in which a separate step of depositing a binder material onto a substrate, is performed prior to carbon nanotube particle deposition. First, a binder layer is deposited on a substrate from a solution containing a binder material. The substrate having the binder material deposited thereon is then transferred into a carbon nanotube suspension bath allowing for coating of the carbon nanotube particles onto the substrate. Thermal processing of the coating transforms the binder layer properties which provides for the adhesion of the carbon nanotube particles to the binder material.